

The Noun Class System of Bwala, an Undocumented Teke Language from the DRC (Bantu, B70z)

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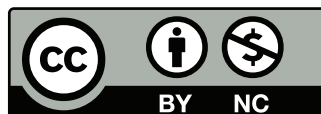
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Abstract

This paper presents the noun class system of Bwala, a nearly undocumented and undescribed Bantu language of the Teke group spoken in the Kinshasa Province of the Democratic Republic of the Congo. Genealogically speaking, Bwala belongs to the Kasai-Ngounie (Extended) subclade, one of the major monophyletic groups within West-Coastal Bantu. Bwala has seven singular classes (1, 3, 5, 7, 9, 14, 15) and five plural classes (2, 4, 6, 8, 10) which form nine singular/plural noun class pairings (1/2, 3/4, 5/6, 5/10, 5/4, 7/8, 7/6, 9/6, 14/6). The paper furthermore addresses the diachronic changes which the Bwala noun class system underwent with respect to Proto-Bantu (PB). We compare these to the changes identified by Hyman, Lionnet, and Ngolele (2019) for Teke-Ewo, a closely related variety, with the aim of identifying morphological innovations shared between varieties of the so-called Teke group (Bantu B70).



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About the authors

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1 Introduction*

Bwala is a Bantu language variety spoken in the province of Kinshasa in the Democratic Republic of the Congo (DRC). It belongs to the so-called Teke group, which spreads over parts of Gabon, the Republic of the Congo, and the DRC and is labelled B70 in Guthrie's (1971) referential classification of the Bantu languages.¹ Since Bwala speakers consider themselves to be "Teke" but their variety is inventoried in neither Guthrie (1948, 1971), nor Maho (2009), nor Hammarström (2019), Pacchiarotti, Chousou Polydouri, and Bostoen (2019) assign Bwala the alphanumeric code 'B70z'. The lowercase 'z' indicates that Bwala has not been inventoried yet but probably belongs to the Teke group, based on diachronic sound changes, morphological structure, and lexicon. Because it has not been inventoried yet, Bwala does not have an ISO 639-3 code either.

Genealogically speaking, the Teke group belongs to the West-Coastal or West-Western branch of the Bantu family (Vansina 1995; Bastin, Coupez, and Mann 1999; de Schryver et al. 2015; Grollemund et al. 2015), but its internal structure is still unclear (Pacchiarotti, Chousou-Polydouri, and Bostoen 2019, 170). According to Pacchiarotti, Chousou-Polydouri, and Bostoen's (2019) lexicon-based phylogenetic classification of West-Coastal Bantu (WCB), Bwala and other Teke B70 languages belong to the so-called "Kasai-Ngounie (Extended)" subclade, one of the major monophyletic groups within WCB. Within that subclade, they do not form a discrete subgroup, but a paraphyletic grade, that is, a cluster of individual languages not having a most recent common ancestor other than the one of Kasai-Ngounie itself. This lack of phylogenetic resolution is possibly due to intensive mutual contact between closely related varieties. For the time being, we therefore consider Bwala to be a distinct variety within a larger Teke dialect continuum.

Very little documentation and descriptive material exist on Bwala. Nsuka Nkutsi (1990) lists it alongside ten other Teke varieties and states that it is mainly spoken in Ngaana (a.k.a. Gana -4.65, 15.82) and Kingao (-4.93, 15.68) in Kinshasa Province, DRC. As far as we know, Bollaert (2019) is thus far the first and only preliminary descriptive study of Bwala. Data in this paper come from Bollaert's (2019) MA dissertation for which the first author did fieldwork in August 2018 in Bankana (-4.45, 16.19). This location is not listed by Nsuka Nkutsi among the places where Bwala is spoken.

The main language consultant was Joseph Emboto, a primary school teacher and native Bwala speaker born in 1958 or 1959 in Gombe Matadi (Kongo Central province, DRC). Throughout his childhood and adult life, Joseph lived in many different places in the DRC. Apart from Bwala, he speaks French, Lingala, and some vehicular Kongo (also known as Kituba, Munukutuba or Kikongo ya Leta). In September 2019, Joseph Emboto provided additional data for the present article to the last author during a separate fieldtrip as part of the BantuFirst project.

Bwala is likely an endangered language. The absolute number of Bwala speakers is un-

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¹ Teke is an exonym. Quoting Vansina (1966, 102), Pacchiarotti, Chousou-Polydouri, and Bostoen (2019, 169–70) state that it "is a Kongo exonym for "all the populations who live on the plateaus north of Malebo Pool on both sides of the Congo River as far north as the mouth of the Nkeni", an affluent of the Congo River located roughly at 16.30, -2.02 in the Republic of the Congo". Teke people or Bateke, who comprise several groups such as the Babwala, designate themselves as Tyoo or Batyoo.

known, but the vitality of Bwala is low, as its youngest speakers are of the (grand-)parental generation. Joseph Emboto, who is in his early sixties now, speaks Bwala fluently but uses it only to communicate with people of his generation and older. He addresses his own children and other children from Bankana in Lingala. Joseph's children only know a few Bwala words, which suggests that there is little to no intergenerational language transmission. The prevalence of Lingala, one of the four national languages of the DRC, is probably the most important threat to the survival of Bwala. Lingala has mother tongue speakers among the inhabitants of Kinshasa and in the urban centres of the central-western and northwestern parts of the DRC, among other places. Additionally, Lingala functions as a lingua franca for speakers with different mother tongues (Meeuwis 2020).

In this article, we present an updated analysis of the Bwala noun class system. Section 2 gives a new preliminary account of Bwala phonology. Section 3 consists of a description of the synchronic noun class system. In Section 4, we focus on the most significant diachronic changes the Bwala noun class system underwent with regard to the system reconstructed for Proto-Bantu (PB). We compare our findings to those presented in Hyman, Lionnet, and Ngolele (2019), who analyse the noun class system of the Ewo dialect of Teke (B71) and examine how it developed from PB. By comparing the development of the noun class systems of Bwala and Teke-Ewo, we hope to shed more light on their relationship and on their position within the Teke group, and within the broader Kasai-Ngounie (Extended) subclade of WCB. Conclusions are in Section 5. In the Appendix we give a historically informed list of over 200 Bwala words.

2 Preliminary account of Bwala phonology

Synchronically, Bwala has five vowel phonemes, *i*, *ɛ*, *a*, *ɔ* and *u*. This is rather unusual from a broader Teke perspective (see e.g. the sixteen vowel phonemes of Eboo Nzikou B74 in Raharimanantsoa 2012), but apparently common in the Teke varieties spoken in the vast plateau northeast of Kinshasa (Nsuka Nkutsi 1990). In this paper, we represent the half-open vowels /*ɛ*/ and /*ɔ*/ with the graphemes <*e*> and <*o*>, as is common practice for Bantu languages with a five-vowel system. A preliminary consonant system of Bwala is shown in Table 1: Bwala consonant system.

Table 1: Bwala consonant system

	bilabial		labio-dental		alveolar		post-alveolar		palatal	velar	labial-velar
plosive	p	b			t	d				k	
nasal		m				n			ɲ		
trill						r					
fricative			f	v	s	z	ʃ	ʒ			
approximant											w
lateral approximant						l			y		
affricate			pf		ts		tʃ				

Bwala has two distinctive tones, high (H) and low (L). When it comes to disyllabic noun stems, the distinctive tone patterns are H-HL and L-LL, e.g. *dí-inì/mí-inì* ‘tooth’ and *mù-sùnù/mì-sùnù* ‘meat’. For noun stems which have more than two syllables, Bwala appears to have two distinctive tone patterns: H-HHL or H-HLL. L-LLL noun stems do not occur in our data. Noun class prefixes in Bwala carry either a H or a L tone. Noun stems with a HL tone pattern have a H-toned noun class prefix, whereas the prefix preceding LL noun stems has a L tone. This tonal behaviour has a diachronic explanation. Noun class prefixes in Bwala first underwent leftward H tone spread within the word. Afterwards, the common Bantu tonal dissimilation process known as “Meeussen’s Rule” (Marlo and Odden 2019, 151, 157) transforms *HH into HL within the noun stem. We illustrate this chronology with some disyllabic noun stems in Table 2: Tonal evolutions affecting nouns and their noun class prefixes in Bwala. A hyphen in Table 2: Tonal evolutions affecting nouns and their noun class prefixes in Bwala separates noun class prefixes from the simple noun stem. The symbol “>” means ‘applies’ while “—” means ‘does not apply’. Note that this seriation of tonal changes caused the merger of three originally distinct tone patterns on disyllabic noun stems (*LH, *HL, and *HH) into HL in Bwala. The protoforms in Table 2: Tonal evolutions affecting nouns and their noun class prefixes in Bwala are taken from the Bantu Lexical Reconstructions (BLR) 3 (Bastin et al. 2002) database (see Appendix for details).

Table 2: Tonal evolutions affecting nouns and their noun class prefixes in Bwala

BLR	Left H tone spread	Pre-Bwala	Meeussen’s rule	Bwala
*L-LL	—	L-LL	—	L-LL
Ñ-jìdà ‘path’		Ø-nzèì		Ø-nzèì
*L-LH	>	H-HH	>	H-HL
mà-gìdà ‘blood’		má-kéì		má-kéì
*L-HL	>	H-HL	—	H-HL
mò-kìdà ‘tail’		mú-kéì		mú-kéì
*L-HH	>	H-HH	>	H-HL
dì-cádà ‘feather’		lí-sáá		lí-sáà

In some cases, a H tone present within the simple noun stem in the protolanguage was lost in Bwala after having caused leftward H tone spreading on the noun class prefix, e.g. BLR 9207 *táà ‘bow’ > bú-tà ‘rifle’; BLR 3405 *jìcò ‘eye’ > dí-ù; BLR 2096 *kúà ‘death’ > lí-pfù. In contrast with this, the H tone of a noun class prefix is never really lost in Bwala. When there is no segment to host it, it floats until a tone bearing unit becomes available. For instance, in Ø-tfi/ má-tfi ‘ear’ (from BLR 3030 *tói), the H tone of the prefix cannot be realized in the singular in isolation, because the noun takes a class 5 zero prefix. However, it is realized in the plural má- where a tone bearing unit is available.

3 Synchronic noun class system

Kadima (1969) identifies three criteria to distinguish between different noun classes in a Bantu language: (i) the agreement pattern nouns trigger in different paradigms (subject prefixes, object prefixes, pronominal prefixes, etc.), (ii) the shape of the noun class prefix (also known as “nominal prefix”), and (iii) the singular/plural noun class pairing nouns belong to. Kadima (1969) considers the first criterion to be the most decisive, but adds the other two, since in many Bantu languages the agreement patterns of two or more noun classes merged over time, while their nominal prefixes remained distinct. Hence, nouns triggering the same agreement pattern but differing regarding their noun class prefixes *and* their corresponding singular/plural class are categorized in different noun classes. Additionally, Bantuists tend to separate sets with only singular nouns from sets with only plural nouns (Kadima 1969, 82; Van de Velde 2019, 248).

Table 3: Bwala noun class prefixes (NP), agreement prefixes (NCP, PP, PS, SP, OP) and connectives (CON) presents the noun classes of Bwala following Kadima’s (1969) criteria. For each noun class, the table includes the noun class prefixes (NP) and the agreement prefixes, more specifically the nominal concord prefix (NCP) as found on adjectives and numerals up to six, the pronominal (concord) prefix (PP) and suffix (PS) as found on demonstratives, the subject prefix (SP) and the object prefix (OP) as found on the verb form, and the connectives (CON).² Because of their tonal behaviour (see Section 2), no tone is noted for the nominal prefixes in Table 3: Bwala noun class prefixes (NP), agreement prefixes (NCP, PP, PS, SP, OP) and connectives (CON). Note that class 1 and class 3 are distinguished only on the basis of the shape of their corresponding connective elements. An “×” in Table 3: Bwala noun class prefixes (NP), agreement prefixes (NCP, PP, PS, SP, OP) and connectives (CON) means lack of data. Since we have no data to illustrate the agreement of infinitives, class 15 is identified solely on the basis of its noun class prefix.³

In total, Bwala has twelve noun classes. These are numbered according to the conventional Bantu noun class numbering system, which reflects the system reconstructed for Proto-Bantu (cf. Meeussen 1967). There are seven singular classes: 1, 3, 5, 7, 9, 14, and 15. Class 1 has two subclasses, 1_{mu} and 1_{\emptyset} . Class 5 consists of four subclasses: 5_{\emptyset} , 5_{li} , 5_{ku} and 5_{di} . There are five plural classes: 2, 4, 6, 8 and 10. These singular and plural classes form nine singular/plural noun class pairings, namely 1/2, 3/4, 5/6, 5/10, 5/4, 7/8, 7/6, 9/6 and 14/6.⁴ Each of these pairings is illustrated in Table 4. Nouns without singular or plural occur in classes 3, 5_{\emptyset} , 5_{li} , 6, 8, 14 and 15.

² Bwala connectives are used with demonstratives, as in (5)–(8) below and in connective constructions which express a variety of meanings. Connective constructions can express possession or ownership as in the Bwala phrase *mákè má mè* ‘my eggs’, where *má* links the head noun ‘eggs’ with the personal pronoun *mè*. Connective constructions can also convey meanings other than ownership, e.g. *mwán é bóò* ‘boy’, literally ‘child CON man’.

³ Since we lack data on agreement patterns, we hypothesize the existence of a synchronic class 15 in Bwala without being able to prove it. As discussed in section 4, we have evidence that the noun for ‘arm’ and ‘leg’ once belonged to PB class 15 in Bwala. Synchronically, this putative class contains only infinitives of verb forms.

⁴ Corbett (1991) conflates the labels “gender” (widely used in Indo-European to designate the sex-based morphological category to which nouns belong) and “noun class” and uses “gender” as a cover term for any noun classification system where the class of a noun is reflected in the behaviour of associated words. In Bantu studies, the term “gender” is often used to refer to noun class pairings (Van de Velde 2019, 238), but it can also be used to refer to single noun classes (Maho 1999, 3). For this reason, we use the more transparent term “noun class pairing”.

Table 3: Bwala noun class prefixes (NP), agreement prefixes (NCP, PP, PS, SP, OP) and connectives (CON)

Cl.	NP	NCP	PP	PS	SP	OP	CON
1 _{mu}	mu-	mú-	Ø-	-wù	é-	mú-	á, é
1 _Ø	Ø-	mú-	Ø-	-wù	é-	mú-	é
2	ba-	bá-	bá-	-bà	bá-	bá-	bá
3	mu-	mú-	Ø-	-wù	é-	mú-	é
4	mi-	mí-	mí-	-mì	mé-	mí-	mé
5 _Ø	Ø-	lí-	lí-	-lì	lé-	lí-	lé
5 _{li}	li-	lí-	lí-	-lì	lé-	lí-	lé
5 _{ku}	ku-	lí-	lí-	-lì	lé-	lí-	lé
5 _{di}	di-	lí-	lí-	-lì	lé-	lí-	lé
6	ma-	má-	má-	-mà	má-	má-	má
7	i-	í-	kí-	-kì	é-	í-	é
8	bi-	bí-	bí-	-bì	bé-	bí-	bé
9	Ø-	ń-	×	-yì	é-	í-	é
10	N-	ń-, Ø-	×	-yì	é-	í-	é
14	bu-	bú-	bú-	-bù	bó-	bú-	bó
15	u-	×	×	×	×	×	×

Table 4: Bwala noun class pairings

Cl.	Example	Cl.	Example
1 _{mu}	mú-ánà ⁵ ‘child’	2	bá-ánà ‘children’
1 _Ø	Ø-mbìlì ‘fish’	2	bá-mbìlì ‘fish’
3	mú-sùrù ‘forest’	4	mí-sùrù ‘forests’
5 _Ø	Ø-vùlù ‘city’	6	má-vùlù ‘cities’
5 _Ø	Ø-sòò ‘leaf’	10	ń-tsòò ‘leaves’
5 _{li}	li-ηkò ‘banana’	6	mà-ηkò ‘bananas’
5 _{li}	lí-sáà ‘feather’	10	ń-tsáà ‘feathers’
5 _{ku}	kú-óò ‘arm, hand’	4	mí-óò ‘arms, hands’
5 _{di}	dí-inì ‘tooth’	4	mí-inì ‘teeth’
7	í-kóò ‘fence’	8	bí-kóò ‘fences’
7	í-tóò ‘buttock’	6	má-tóò ‘buttock’
9	Ø-ηkè ‘paddle’	6	má-ηkè ‘paddles’
14	bú-tà ‘rifle’	6	má-tà ‘rifles’

⁵ Throughout this paper, we follow the International Phonetic Alphabet (IPA), with one exception. For the palatal lateral approximant [j], we use <y> instead of <j> in line with the International African Alphabet. We make this exception to avoid confusion, since <j> is commonly used for [dʒ] or [j] in orthographies of Bantu and Niger-Congo languages more generally.

In the following account of the Bwala noun class system, we make use of adjectives, numerals up to six, demonstratives, connectives, and verbs to distinguish between noun classes, as they all agree with the head noun. The agreement patterns of adjectives and numerals up to six are shown in (1)–(4), respectively. The two demonstratives we have identified are illustrated in (5)–(8).

Agreement pattern of adjectives: PP-NCP-stem

- (1) *í-búò kíínén*⁶
í-búò *kí-í-nénè*
 NP₇-horn PP₇-NCP₇-big
 ‘the big horn’

- (2) *báán bábábì*
bá-ánà *bá-bá-bì*
 NP₂-child PP₂-NCP₂-bad
 ‘the bad children’

Agreement pattern of numerals: NCP-stem

- (3) *íkóò ímò*
í-kóò *í-mò*
 NP₇-fence NCP₇-one
 ‘one fence’

- (4) *báánà bátúrù*
bá-ánà *bá-túrù*
 NP₂-child NCP₂-three
 ‘three children’

Agreement pattern of proximal demonstrative: CON só-PS

- (5) *nzò é sóyì*
 \emptyset -*nzò* *é* *só-yì*
 NP₉-house CON₉ DEM-PS₉
 ‘this house here’

- (6) *mávùlù má sómà*
má-vùlù *má* *só-mà*
 NP₆-city CON₆ DEM-PS₆
 ‘these cities here’

⁶ The surface notation of the examples tries to reflect phonetics as much as possible. Abbreviations are as follows: 1= first person; CON = connective; DEM = demonstrative; LOC = locative preposition; NCP = nominal concord prefix; NP = noun (class) prefix; OP = object prefix; PFV = perfective aspect; PP = pronominal (concord) prefix; PRS = present tense; PST = past tense; PS = pronominal (concord) suffix; SP = subject prefix; SG = singular. A subscript number indicates the class number to which a given agreement morpheme or noun class prefix belongs.

Agreement pattern of distal demonstrative: CON *só-PS-náni*

- (7) *ɲké é sóyìnání*
Ø-ɲkè é só-yì-nání
 NP₉-paddle CON₉ DEM-PS₉-DEM
 ‘that paddle there’

- (8) *mávúlù má sómànaní*
má-vúlù má só-mà-nání
 NP₆-city CON₆ DEM-PS₆-DEM
 ‘those cities there’

As for the connectives, the *PP-*a* structure reconstructed by Meeussen (1967) for the PB connective is still retrievable for most classes (i.e. 2, 4, 5, 6, 7, 8, 9, 10, and 14), in that their present-day form can still be analysed as a sequence of PP (pronominal prefix) and *-a*, with the vowel /e/ in classes 4, 5, 7, 8, 9 and 10 being a merger of PP *i-* and *-a* and /o/ in class 14 of PP *u-* and *-a* (see Table 3: Bwala noun class prefixes (NP), agreement prefixes (NCP, PP, PS, SP, OP) and connectives (CON)). The *PP-*a* structure is not retrievable for the connectives of classes 1 and 3, which have a connective *é*, while their present-day PP is *Ø*.

3.1 Noun class pairing 1/2

Nouns belonging to pairing 1_{mu}/2 have the nominal prefixes *mu-/ba-*, as shown in (9). The vowel of the singular NP *mu-* glides to [w] when followed by a vowel-initial noun stem, e.g. *mwánà* ‘child’. The few 1_{mu}/2 nouns in our data all denote human beings.

- (9) *mú-ánà/bá-ánà* ‘child’
mú-káàr/bá-káàr ‘woman’

The agreement of the nouns in (9) is illustrated in (10)–(14).

- (10) *mávúlù má sómànaní*
má-vúlù má só-mà-nání
 NP₆-city CON₆ DEM-PS₆-DEM
 ‘those cities there’

- (11) *mwán múbì*
mú-ánà Ø-mú-bì
 NP₁-child PP₁-NCP₁-bad
 ‘bad child’

- (12) *báán bábábì*
bá-ánà bá-bá-bì
 NP₂-child PP₂-NCP₂-bad
 ‘bad children’

- (13) *múkààr múmò*
mú-kààr mú-mò
 NP₁-woman NCP₁-one
 ‘one woman’

- (14) *bákààr búwè*
bá-kààr bá-ùè
 NP₂-woman NCP₂-two
 ‘two women’

In contrast to other classes, class 1_{mu} has two connectives, *á* and *é*. We could not find a conditioning factor to account for their distribution; they seem to be in free alternation. Both *á* and *é* are used in associative constructions, e.g. *múkúr á bód* ‘male elder’ and *mwán é bód* ‘boy’.⁷ In possessive constructions, we have only observed *á*, e.g. *mwán á mè* ‘my child’, while with demonstratives only *é*, e.g. *múkààr é sówù* ‘this woman here’.

Several nouns triggering agreement in class 1, as shown in (16)–(23), are zero prefixed in the singular, see (15). They constitute a subclass 1_ø, which includes, among others, nouns denoting animals, e.g. *nzòò* ‘elephant’ and *mbíli* ‘fish’, and natural phenomena, e.g. *ntswú* ‘moon’ and *mvóù* ‘rain’, as well as kinship terms, e.g. *tààrà* ‘father’ and *ngù* ‘mother’.

- (15) *Ø-bód/bá-bód* ‘man’
Ø-tààrà/bá-tààrà ‘father’
Ø-ńámà/bá-ńámà ‘animal’
Ø-mwélè/bá-mwélè ‘river’

- (16) *bód múmò*
Ø-bód mú-mò
 NP_{1ø}-man NCP_{1ø}-one
 ‘one man’

- (17) *bábód búwè*
bá-bód bá-ùè
 NP₂-man NCP₂-two
 ‘two men’

- (18) *tààrà múpfi*
Ø-tààrà Ø-mú-pfi
 NP_{1ø}-father PP_{1ø}-NCP_{1ø}-short
 ‘the short father’

- (19) *bátààrà bábápfì*
bá-tààrà bá-bá-pfi
 NP₂-father PP₂-NCP₂-short
 ‘the short fathers’

⁷ The final vowel of *múkúrù* ‘elder’ and *mwánà* ‘child’ was lost in these utterances.

- (20) *nám é mú-bì*
Ø-námà é mú-bì
 NP_{1Ø}-animal CON_{1Ø} NCP_{1Ø}-bad
 ‘bad animal’
- (21) *bánám bábábì*
bá-námà bá-bá-bì
 NP₂-animal PP₂-NCP₂-bad
 ‘bad animals’
- (22) *mwél é sówù*
Ø-mwélè é só-wù
 NP_{1Ø}-river CON_{1Ø} DEM-PS_{1Ø}
 ‘this river here’
- (23) *bámwél bá sóbà*
bá-mwélè bá só-bà
 NP₂-river CON₂ DEM-PS₂
 ‘these rivers here’

Adjectives agreeing with subclass 1_Ø nouns do not always have the same structure as the adjectives agreeing with class 1 nouns. For instance, the adjective *mú-pfi* in (18) has the expected zero pronominal prefix, but in (20) we find *é* instead of *Ø-* in *nám é mú-bì* ‘bad animal’.⁸ The origin of this *é* is unclear. For the time being, we consider it as a connective that replaces the pronominal prefix.

3.2 Noun class pairing 3/4

The singular class 3 has the same nominal prefix as class 1, namely, *mu-*. It forms a pairing with the plural class 4 *mi-*. Examples of pairing 3/4 are given in (24). Semantically, 3/4 contains nouns designating human and animal body parts, landscape elements, objects, plant products, and body-internal products.

- (24) *mú-tì/mí-tì* ‘tree’
mú-súrù/mí-súrù ‘forest’
mù-ntò/mì-ntò ‘basket’

The agreement pattern of class 3 is largely the same as that of class 1. However, whereas class 1 has two connectives, *á* and *é*, class 3 only has *é* as a connective. In (25)–(29), we illustrate the agreement patterns of the 3/4 nouns in (24).

⁸ Such examples are found along with *bòò mú-bì* ‘bad man’ and *tààrà mú-bì* ‘bad father’, where the PP of the adjective is *Ø-* and the *é* is absent. We also once noted *ńtswì wú-mú-bì* ‘bad moon’, the only instance of an adjective with PP *wú-*, along with *ńtswì múbì* ‘bad moon’ in which the adjective has a regular PP *Ø-*.

- (25) *mútì é músúrù*
mú-tì é mú-súrù
 NP₃-tree CON₃ NP₃-forest
 ‘tree of the forest’
- (26) *músúrù múbì*
mú-súrù Ø-mú-bì
 NP₃-forest PP₃-NCP₃-bad
 ‘bad forest’
- (27) *mísúrù mímbì*
mí-súrù mí-mí-bì
 NP₄-forest PP₄-NCP₄-bad
 ‘bad forests’
- (28) *mùntò é sówù*
mù-ntò é só-wù
 NP₃-basket CON₃ DEM-PS₃
 ‘this basket here’
- (29) *mùntò mísámù*
mù-ntò mí-sámù
 NP₄-basket NCP₄-six
 ‘six baskets’

3.3 Noun class pairing 5/6

Table 3: Bwala noun class prefixes (NP), agreement prefixes (NCP, PP, PS, SP, OP) and connectives (CON) shows that nominal prefixes \emptyset -, *li*-, *ku*- and *di*- all trigger class 5 agreement. We distinguish four subclasses accordingly: 5_{\emptyset} , 5_{li} , 5_{ku} , and 5_{di} . Nouns of subclasses 5_{\emptyset} and 5_{li} each pair with either class 6 or class 10 for the plural, while those of subclasses 5_{ku} and 5_{di} pair with class 4. Semantically, pairing 5/6 includes nouns referring to human body parts, bird parts, fruits, time periods, and landscape and settlement elements.

$5_{\emptyset}/6$ nouns have the nominal prefixes \emptyset -/*ma*-. In (31)–(35), we illustrate the agreement patterns of the $5_{\emptyset}/6$ nouns in (30).

- (30) \emptyset -vúlù/má-vúlù ‘city’
 \emptyset -kè/má-kè ‘egg’
 \emptyset -tsòù/má-tsòù ‘day’
- (31) *vúlù lílíbì*
 \emptyset -vúlù lí-lí-bì
 NP_{5 \emptyset} -city PP₅-NCP₅-bad
 ‘bad city’

- (32) *mávúlù mámábì*
má-vúlù *má-má-bì*
 NP₆-city PP₆-NCP₆-bad
 ‘bad cities’
- (33) *kè lé mè*
Ø-kè *lé* *mè*
 NP₅₀-egg CON₅ 1SG
 ‘my egg’ (lit: ‘egg of me’)
- (34) *mákè má mè*
má-kè *má* *mè*
 NP₆-egg CON₆ 1SG
 ‘my eggs’ (lit: ‘eggs of me’)
- (35) *tsòù lé sólì*
Ø-tsòù *lé* *só-lì*
 NP₅₀-day CON₅ DEM-PS₅
 ‘this day’

Examples of 5_{ii}/6 nouns, which have the prefixes *li-/ma-*, are in (36). For this class pairing, we have agreement for only one noun, *lí-límì* ‘tongue’, shown in (37).

- (36) *lí-límì/má-ndímì* ‘tongue’⁹
lí-nzáà/má-nzáà ‘fingernail’
lì-ηkò/mà-ηkò ‘banana’
- (37) *mélímwéné*¹⁰
mè *é-Ø-lí-món-ì*
 1SG SP1SG-PRS-OP₅-see-PFV
 ‘I have seen it [the tongue].’

3.4 Noun class pairing 5/10

Our data contain only one class 5 noun which has a zero-prefix and forms its plural in class 10, *Ø-sòò/ń-tsòò* ‘leaf’.¹¹ The class 10 noun class prefix is a homorganic nasal which assimilates to the place of articulation of the stem-initial consonant and is usually represented in Bantu studies as *N-*. The nasal prefix causes fortition of the voiceless alveolar fricative [s] to the affricate [tʃ]. In (38) we illustrate the agreement triggered by *sòò* ‘leaf’.

⁹ On the 1/nd stem in *li-limi/ma-ndimi* see §4.

¹⁰ When it comes to verbs, we did not set out to describe the entire verbal conjugation, but rather focussed on finding out how verbs agree with or refer to noun phrases. Our knowledge of Bwala verbs is therefore still very limited, as reflected in the glossing of examples throughout the article.

¹¹ While the language consultant also once translated ‘leaf’ with *lí-sòò*, this form is dubious since he translated *lí-sòò* with ‘cassava tuber’ at a later time.

- (38) *sòò lá mútì*
 \emptyset -sòò *lé* *mú-tì*
 NP_{5 \emptyset} -leaf CON₅ NP₃-tree
 ‘leaf of the tree’

5_{li}/10 nouns have the nominal prefix *li-* in the singular and *N-* in the plural, as illustrated in (39). Semantically, this pairing includes nouns for body parts, bird parts, tree parts and plant products. We illustrate the agreement of the 5_{li}/10 nouns in (40)–(42).

- (39) *lí-sáà/ń-tsáà* ‘feather’
lí-fóù/ń-fóù ‘hair’

- (40) *lí-sáà límò*
lí-sáà *lí-mò*
 NP_{5li}-feather NCP₅-one
 ‘one feather’

- (41) *ntsáà túrù*
ń-sáà \emptyset -túrù
 NP₁₀-feather NCP₁₀-three
 ‘three feathers’

- (42) *ńfú émbì*
ń-fóù *é* *ń-bì*
 NP₁₀-hair CON₁₀ NCP₁₀-bad
 ‘bad hairs’

The structure of the only adjective in our data agreeing with a class 10 noun, *é m-bì* (see (42)), is reminiscent of *é mú-bì*, which agrees in class 1 _{\emptyset} (cf. supra). Due to this similarity, we interpret the initial *é* in the same way, that is, as a connective replacing the pronominal prefix that is normally the initial morpheme of a Bwala adjective.

3.5 Noun class pairing 5/4

Our data contain two 5_{ku}/4 nouns, *kú-òò/mí-òò* ‘arm, hand’ and *kù-ù/mì-ì* ‘foot’. Their nominal prefixes are *ku-/mi-*. We illustrate the agreement of the 5_{ku}/4 nouns in (43)–(46).

- (43) *kúó lé sólì*
kú-òò *lé* *só-lì*
 NP_{5ku}-arm CON₅ DEM-PS₅
 ‘this arm here’

(44) *míó mé sómì*
mí-óò mé só-mì
 NP₄-arm CON₄ DEM-PS₄
 ‘these arms here’

(45) *kùù lé mè*
kù-ù lé mè
 NP_{5ku}-foot CON₅ 1SG
 ‘my foot’ (lit: ‘foot of me’)

(46) *mùù mé mè*
mù-ì mé mè
 NP₄-foot CON₄ 1SG
 ‘my feet’ (lit: ‘feet of me’)

5_{di}/4 nouns have the nominal prefixes *di-/mi-*. The two 5_{di}/4 nouns in our data are *dí-ù/mí-ù* ‘eye’ and *dí-ìní/mí-ìní* ‘tooth’. Their agreement patterns are in (47)–(50).

(47) *dyû lílíbì*
dí-ù lí-lí-bì
 NP_{5di}-eye PP₅-NCP₅-bad
 ‘bad eye’

(48) *myû míímíbì*
mí-ù mí-mí-bì
 NP₄-eye PP₄-NCP₄-bad
 ‘bad eyes’

(49) *díínì límò*
dí-ínì lí-mò
 NP_{5di}-tooth NCP₅-one
 ‘one tooth’

(50) *míínì mé mè*
mí-ínì mé mè
 NP₄-tooth CON₄ 1SG
 ‘my teeth’ (lit: ‘teeth of me’)

3.6 Noun class pairing 7/8

7/8 nouns have the nominal prefixes *i-/bi-*, as shown in (51). The agreement patterns of these nouns are illustrated in (52)–(57). Semantically, 7/8 nouns refer to human and animal body parts, tree and mammal parts, domestic utensils, objects, sky-related vocabulary, and supernatural concepts.

- (51) *í-búò/bí-búò* ‘horn’
í-kóò/bí-kóò ‘fence’
ì-kò/bì-kò ‘garment’
- (52) *íbúò é nám*
í-búò *é* *Ø-námà*
 NP₇-horn CON₇ NP₁₀-animal
 ‘horn of the animal’
- (53) *bíbúò bé bánám*
bí-búò *bé* *bá-námà*
 NP₈-horn CON₈ NP₂-animal
 ‘horns of the animals’
- (54) *íkóò ímò*
í-kóò *í-mò*
 NP₇-fence NCP₇-one
 ‘one fence’
- (55) *bíkóò bíyè*
bí-kóò *bí-ùè*
 NP₈-fence NCP₈-two
 ‘two fences’
- (56) *ìkò é sókínánì*
ì-kò *é* *só-kì-nánì*
 NP₇-garment CON₇ DEM-PS₇-DEM
 ‘that garment’
- (57) *bìkò bé sóbìnánì*
bì-kò *bé* *só-bì-nánì*
 NP₈-garment CON₈ DEM-PS₈-DEM
 ‘those garments’

3.7 Noun class pairing 7/6

There is only one noun in our data which has a singular NP *i-* and forms its plural in class 6, *í-tóò/má-tóò* ‘buttock, pelvic bone’. In terms of agreement, this noun takes the connective *é* like regular class 7 nouns, and the class 6 connective *má* in the plural, see (58)–(59). For this reason, we interpret it for now as belonging to pairing 7/6.

- (58) *ítóò é mè*
í-tóò *é* *mè*
 NP₇-buttock CON₇ 1SG
 ‘my buttock’ (lit. ‘buttock of me’)

- (59) *mátòd má mè*
má-tòd má mè
 NP₆-buttock CON₆ 1SG
 ‘my buttocks’ (lit: ‘buttocks of me’)

3.8 Noun class pairing 9/6

9/6 nouns have the nominal prefixes \emptyset -/*má*-, as shown in (60). All class 9 nouns begin with a homorganic nasal, which used to be a prefix, but no longer is synchronically, since it does not commute with the plural prefix *ma*- of class 6. We elaborate on this evolution in Section 3.

Like 5₉/6 nouns, class 9/6 nouns are prefixless and form their plural in class 6. However, we distinguish class 5₉ and class 9 as separate because they trigger distinct agreement patterns, as can be seen by comparing (61)–(65) with (30)–(35).

- (60) \emptyset -*nzò*/*má*-*nzò* ‘house’
 \emptyset -*ɲkè*/*má*-*ɲkè* ‘paddle’
 \emptyset -*ɲkû*/*má*-*ɲkû* ‘neck’
- (61) *nzò é byù*
 \emptyset -*nzò* *é* *byù*
 NP₉-house CON₉ 1PL
 ‘our house’ (lit: ‘house of us’)
- (62) *mánzò má mè*
má-*nzò* *má* *mè*
 NP₆-house CON₆ 1SG
 ‘my houses’ (lit: ‘houses of me’)
- (63) *ɲkè é sóyínání*
 \emptyset -*ɲkè* *é* *só-yì-nání*
 NP₉-paddle CON₉ DEM-PS₉-DEM
 ‘that paddle there’
- (64) *máɲkè má sómànaní*
má-*ɲkè* *má* *só-mà-nání*
 NP₆-paddle CON₆ DEM-PS₆-DEM
 ‘those paddles there’
- (65) *ɲkû éndè*
 \emptyset -*ɲkû* *é*-N-*lè*
 NP₉-neck CON₉-NCP₉-long
 ‘long neck’

Like some adjectives agreeing in classes 1₉ and 10, all adjectives agreeing in class 9 in our data begin with *é*- (65). Again, we consider this morpheme to be a connective replacing the regular

initial morpheme in Bwala adjectives, that is, the pronominal prefix.

3.9 Noun class pairing 14/6

Examples of 14/6 nouns are shown in (66), while their agreement is illustrated in (67)–(72). All 14/6 nouns have the nominal prefixes *bu-/ma-*. Semantically, the very few 14/6 nouns in our dataset refer to means of transportation, weapons, staple food, and settlement types. A special noun in this class pairing is *bwàrà* ‘canoe’, a reflex of BLR 3252 **játò*, where the historical NP **bú-* has been reanalysed as part of the simple noun stem, that is, **bu-jato* > *Ø-bwara*. This reanalysis is evident in the plural form of this noun, which is *mábwàrà* ‘canoes’ and not *màrà*, cf. (69). However, *bwàrà* ‘canoe’ still triggers agreement in class 14, as shown in (68), and could therefore be parsed from a historical perspective as *bú-àrà* and its plural as *má-bú-àrà*.¹²

- (66) *bú-àrà/má-bú-àrà* ‘canoe’
bú-tà/má-tà ‘rifle’
bú-là/má-là ‘village’

- (67) *ɲkû éndè*
Ø-ɲkû *é-N-lè*
 NP₉-neck CON₉-NCP₉-long
 ‘long neck’

- (68) *bwár bó mè*
bú-àrà bó mè
 NP₁₄-canoe CON₁₄ 1SG
 ‘my canoe’ (lit: ‘canoe of me’)

- (69) *mábwár má mè*
má-bú-àrà má mè
 NP₆-NP₁₄-canoe CON₆ 1SG
 ‘my canoes’ (lit: ‘canoes of me’)

- (70) *bútà búmò*
bú-tà bú-mò
 NP₁₄-rifle NCP₁₄-one
 ‘one rifle’

- (71) *mátà mátàànà*
má-tà má-tàànà
 NP₆-rifle NCP₆-five
 ‘five rifles’

¹² We prefer this analysis rather than *Ø-bwàrà* because we do not have other class 14 nouns with a zero-prefix in our dataset.

- (72) *búlà búbúnén*
bú-là bú-bú-nénè
 NP₁₄-village PP₁₄-NCP₁₄-big
 ‘big village’

3.10 Nouns without a singular/plural opposition

Several Bwala noun stems are not part of a singular/plural pairing, but only occur within one noun class. In (francophone) Bantu studies, they are commonly known as “monoclass” nouns (cf. French *monoclasse*). Their single nominal prefix can be one of a typically singular class, e.g. 3 or 7, but also of a typically plural class, e.g. 6 or 8. The determination of their noun class necessarily happens on the basis of the form of their nominal prefix and the agreement patterns they trigger only. Using these criteria, we have identified monoclass nouns in classes 3 (73), 5_o (74)–(76), 5_{ii} (77), 6 (78)–(79), 8 (80), 14 (81) and 15 (82). Semantically, monoclass 3 nouns designate weather and environment conditions, and substances. Monoclass 5_o and 5_{ii} contain natural elements, sky and fire-related vocabulary and the word for ‘death’. Bwala monoclass 6 contains words for liquids, as is common in Bantu (Maho 1999, 77–78) (and other Niger-Congo) languages, but it also contains a few other mass concepts. Monoclass 8 contains only one noun for ‘food’ in our database. As is often the case in Bantu (Maho 1999, 78), Bwala monoclass 15 includes only infinitives.

- (73) *mùdìl é sówù*
mù-dìlì é só-wù
 NP₃-cold CON₃ DEM-PS₃
 ‘this cold’
- (74) *télé lílìbì*
Ø-télé lí-lì-bì
 NP_{5o}-sun PP₅-NCP₅-bad
 ‘the bad sun’
- (75) *sìè lé Mbáàṅkàṅà*
Ø-sìè lé Mbáàṅkàṅà
 NP_{5o}-sand CON₅ Mbankana
 ‘the sand of Mbankana’
- (76) *tsùrù lé sólì*
Ø-tsùrù lé só-lì
 NP_{5o}-heat CON₅ DEM-PS₅
 ‘this heat’
- (77) *lìbáán lé sólì*
lí-báánà lé só-lì
 NP_{5ii}-illumination CON₅ DEM-PS₅
 ‘this illumination’

- (78) *màdyà màmábi*
mà-dyà *má-má-bì*
 NP₆-water PP₆-NCP₆-bad
 ‘bad water’
- (79) *másòd má mè*
má-sòd *má* *mè*
 NP₆-food CON₆ 1SG
 ‘my food’ (lit: ‘food of me’)
- (80) *bídyà bé mè*
bì-dyà *bé* *mè*
 NP₈-food CON₈ 1SG
 ‘my food’ (lit: ‘food of me’)
- (81) *búlúùm búmò*
bú-lúùmù *bú-mò*
 NP₁₄-major.river NCP₁₄-one
 ‘one major river’
- (82) *ú-wúmù* ‘to breathe, to dry’
ú-yábà ‘to know’
ú-wá ‘to give’

3.11 Locatives

In her comparative study of locatives across Bantu, Grégoire (1975) states that the PB locative classes 16, 17, and 18 no longer exist as classes in zone B. Agreement is rare and when it occurs, there is a considerable degree of fossilisation. However, the PB locative classes left numerous remnants in zone B languages, such as (i) the nominal prefixes, which over time came to be used as prepositions; (ii) independently used demonstratives; and (iii) interrogatives meaning “where?” (Grégoire 1975, 114). In the Bwala data, we found evidence for (i) and (iii).

There are three particles that express a locative meaning in Bwala: *ú*, *kú*, and *mú*. Since they do not trigger agreement, we do not consider them as being synchronically part of the Bwala noun class system. *Mú* is the regular reflex of PB class 18 *mò-, while both *kú* and *ú* could be relics of PB class 17 *kè-. The development of H tone on these reflexes does not have an explanation at present. Reflexes of PB *k and *g, which merged to *k in Proto-WCB (Pacchiarotti and Bostoen 2020), are known to be ‘erratic’ throughout WCB, as there can be multiple reflexes in a single language without any phonological conditioning, especially in stem-final position (i.e. in Consonant 2 position in a C₁VC₂V template). Since *ú* and *kú* have the same meaning and are interchangeable (see below), *ú* could be a further eroded variant of *kú*. In several Teke languages, *k* and \emptyset co-exist as reflexes of PB *k (cf. Pacchiarotti and Bostoen forthcoming). In Bwala, **k* is retained in C₁ position, e.g. **kádí* ‘woman’ (BLR 1674) > *mú-káàr*, **kídà* ‘tail’ (BLR 1793) > *mú-kéi*, and lost everywhere else, e.g. in C₂ position **kòòkó* ‘grandparent’ (BLR 1906) > *íjkóó*, **còk* ‘wash, cleanse’ (BLR 711) > *ú-súò* and in prefixes, e.g.

PB c115 *kò- > *u-*. The retention of *k in C1 might have been favoured by the fact that the stem-initial position is a position of phonetic and phonological prominence in Teke languages (Paulian 1975). This is true of most northwestern Bantu languages and Niger-Congo languages further north and west (Idiatov and Van de Velde 2016; Lionnet and Hyman 2018, 651–55; Hyman et al. 2019, 196–99, and references therein).

These three locative particles in Bwala can be used as prepositions. *Ú* and *kú* express a general sense of place or direction, as illustrated in (83)–(84). According to our language consultant, they are interchangeable as prepositions. We therefore consider them to be free allomorphs for the time being.

- (83) *nzíámì ákè ú yùù*
Ø-nzíámì á-Ø-kà-ì ú Ø-yùù
 NP_{1Ø}-God SP₁-PRS-be-PFV LOC NP_{5Ø}-Sky
 ‘God is in the sky’

- (84) *éyító kú búlà*
é-yí-tó kú bú-là
 SP₁-PST-arrive LOC NP₁₄-village
 ‘She/he arrived at the village’

When *mú* is used as a preposition, it expresses interiority or surface location, as shown in (85) and (86)–(87) respectively.

- (85) *éyító mú búlà búbúnénè*
é-yí-tó mú bú-là bú-bú-nénè
 SP₁-PST-arrive LOC NP₁₄-village PP₁₄-NCP₁₄-big
 ‘She/he arrived in the big village’

- (86) *éíúú mú íkúrákù*
é-Ø-fúú mú í-kúrákù
 SP₁-PRS-sit.PFV LOC NP₇-stool
 ‘He is seated on the stool’

- (87) *éíúú mú máànà*
é-Ø-fúú mú má-ànà
 SP₁-PRS-sit.PFV LOC NP₆-earth
 ‘he is seated on the ground’

The locative particles *ú* and *mú* can also be used in combination with certain nouns to form more specific locative expressions such as *ú nzíà* ‘on top of’ and *ú/mú ñkàrà* ‘inside of’ as shown in (88)–(90). It is possible that *kú* is also used in this way, but our language consultant did not translate any of the examples using this particle. However, he accepted it as an option in certain expressions, e.g. *kú ñgíá nzò* ‘on top of a house’.

- (88) *ú nzià nzò*
ú \emptyset -*nzià* \emptyset -*nzò*
 LOC NP₉-top NP₉-house
 ‘on top of a house’
- (89) *ú nkàrà nzò*
ú \emptyset -*nkàrà* \emptyset -*nzò*
 LOC NP₉-inside NP₉-house
 ‘inside the house’
- (90) *mú nkàrà búlà búbúnénè*
mú \emptyset -*nkàrà* *bú-là* *bú-bú-nénè*
 LOC NP₉-inside NP₁₄-village PP₁₄-NCP₁₄-big
 ‘inside the big village’

In addition to these uses of the locative particles *ú*, *kú* and *mú*, *kú* is used in the formation of the interrogative *kúni* ‘where?’.

4 Diachronic account of Bwala’s noun class system

In this section, we focus on the most significant diachronic changes the Bwala noun class system underwent with regard to that of Proto-Bantu. Additionally, we assess to what extent these changes correspond to those identified by Hyman, Lionnet, and Ngolele (2019) for the noun class system of Teke-Ewo, a closely related variety. The aim of the comparison is to see if there are any noun class restructurings which appear to be shared by minimally two Teke varieties.

In Table 5 we show the reflexes of the PB noun class system (Maho 1999; Meeussen 1967; Van de Velde 2019) in Bwala. We focus only on noun class prefixes (NP) and the pronominal prefixes (PP) as reconstructed by Meeussen (1967) and transcribed according to International Phonetic Alphabet (IPA). A question mark in Table 5 means lack of data, while “—” means there is no reflex in Bwala.

Table 5: Reflexes of PB noun class prefixes and pronominal prefixes in Bwala

Cl.	PB		Bwala	
	NP	PP	NP	PP
1	*mò-	*jò-	mu-	Ø-
1a	*Ø-	*jò-	Ø-	Ø-
2	*bà-	*bá-	ba-	bá-
3	*mò-	*gó-	mu-	Ø-
4	*mì-	*gí-	mi-	mí-
5	*ì-	*dí-	li-	lí-
6	*mà-	*gá-	ma-	má-
7	*kì-	*kí-	i-	kí-
8	*bì-	*bí-	bi-	bí-
9	*Ñ-	*jì-	Ø-	?
10	*Ñ-	*jí-	N-	?
11	*dò-	*dó-	li-	lí-
12	*kà-	*ká-	—	—
13	*tò-	*tó-	—	—
14	*bò-	*bó-	bu-	bú-
15	*kò-	*kó-	u-	?
16	*pà-	*pá-	—	—
17	*kò-	*kó-	(k)u	—
18	*mò-	*mó-	mu	—

Classes 1, 1a, 2, 3, 4, 5, 6, 7, 8 and 14 remained relatively intact in Bwala in terms of both their contents and their singular/plural pairings. Classes 12 and 13 and locative class 16 were lost. As for locative classes 17 and 18, their former prefixes evolved into prepositions. The PB noun classes 9 and 10 have not disappeared from Bwala, but they no longer occur as a singular/plural pair. Moreover, in all former 9/10 nouns, their historical NP *N- was reanalysed as part of the noun stem as the examples throughout this paper show. However, although the reflexes of PB class 9 and class 10 no longer pair in Bwala, they still trigger different agreement patterns and have survived as separate noun classes (see Table 3: Bwala noun class prefixes (NP), agreement prefixes (NCP, PP, PS, SP, OP) and connectives (CON)). Class 10 still preserves the homorganic nasal as a commutable noun class prefix (see 2.4), while that of class 9 is synchronically zero (see 2.8).

The remainder of the PB noun classes underwent restructuring in Bwala. The Bwala evolutions in Table 5 are strikingly different from those of Teke Ewo as described in Hyman, Lionnet, and Ngolele (2019). First, while Teke Ewo lost the initial consonant of PB class 2 *bà-, class 6 *mà-, and class 8 *bì-, Bwala preserved all consonants of PB noun class prefixes except for class 15 *kò- (see discussion in §3.11). Loss of consonants of PB reconstructed noun class prefixes is widespread in other WCB varieties, such as Ngwi B861 (Pacchiarotti and Bostoen forthcoming) and Ngungwel B72a, and to a lesser extent in Mpini B601 and Mbaama B62 (Bollaert 2019, 139). On the other hand, consonants of PB noun class prefixes are (nearly) entirely preserved in Tiene B81, North Boma B82, Kukwa B77a, Duma B51, Nzebi B52, and Tsaangi

B53 (Bollaert 2019, 139). Because of the phylogenetic positioning of these varieties, the most sensible explanation is to posit loss of consonants in PB noun class prefixes as a recurrent parallel innovation. Second, Bwala is far more conservative than Teke Ewo: in the latter, only PB class pairings 1/2, 5/6, and 7/8 were preserved. As we show in what follows, only two innovations appear to be shared between Teke Ewo and Bwala.

Although we do not have enough data to make conclusive claims, it seems that PB class 15 retained the host of infinitives in Bwala, a function also reconstructed for PB (Forges 1983). It did, however, lose the few PB nouns reconstructed for class 15 (cf. Maho 1999, 194–97), such as ‘arm’ and ‘leg’, which were reanalysed as part of class 5 in Bwala (specifically, *kú-óò/mí-óò* ‘arm’ and *kù-ù/mì-ì* ‘foot’ ended up in subclass 5_{ku}). The shift of PB class pairing 15/6 to 5/4 also occurred in Tiene B81 (Bollaert 2019), another WCB variety belonging to the Kwilu-Ngounie branch, but not in Teke Ewo as far as we can tell.

Besides the reassignment of nouns for ‘arm’ and ‘leg’, a first major innovation in Bwala is the merger of PB classes 5 and 11, whereby historical class 11 nouns were reassigned to synchronic class 5. This merger was caused by the phonological shift of PB class 11 *dò- to *li-*.¹³ The latter is more similar to PB *dí- of class 5, but not identical to its direct Bwala reflex *di-* (cf. *dí-ìni* ‘tooth’).¹⁴ All original class 11 nouns have the *li-* prefix in Bwala and take their plural in either class 10 or class 6, as shown in (91)–(92) respectively.

- (91) Bwala 5/10
lí-sáà/n-tsáà ‘feather’
lí-fóù/m-fóù ‘hair’
- (92) Bwala 5/6
lí-nzáà/má-nzáà ‘fingernail’
lí-ntsóò/má-ntsóò ‘liver’
lí-límì/má-ndímì ‘tongue’

Although class 11 nouns often make their plural in either class 10 or class 6 across Bantu, the Bwala 5/10 and 5/6 pairings involving singular *li-* do not always correspond directly to PB 11/10 and 11/6, respectively. While the nouns in (91) are a direct reflex of the original class 11/10 pairing with the regular commutation of the singular *li-* (PB class 11 > Bwala class 5) and plural *N-* prefixes (class 10 in PB and Bwala), those in (92) underwent reanalysis. They also originally belonged to the 11/10 pairing, but the erstwhile *N-* prefix of plural class 10 was reinterpreted as part of the noun stem and the plural noun was reintegrated in class 6 *ma-*.¹⁵

¹³ The sound change *dò- > *li-* might strike the reader as unusual given that a half-close back vowel becomes a front close one. Nevertheless, this sound change seems to be attested in many other WCB varieties and even in Siyu B29, a North-Western Bantu language spoken in Gabon (Maho 1999, 288–291). Additionally, we note that in varieties of French spoken in the DRC, IPA [y] is often pronounced as [i]; for example, <tribu> [tri’by] is realized as [tri’bi]. This articulatory habit might be related in some way to the sound change PB class 11 underwent in WCB languages.

¹⁴ As discussed in Hyman (2019, 142), PB *d may be preserved as [d] before [i], but realised as [l] or [r] before other vowels. This variation is attested both in 7V languages, e.g. Duala A24, Tiene B81, Bobangi C32, and in 5V languages, for instance, in certain varieties of Kongo H10, Lwena K14, Kwezo L13, Manyo K332, Kete L21 and certain varieties of Yao P21.

¹⁵ Two nouns in (92) are reconstructed as belonging to class pair 11/10, i.e. *dò-/N-jádà ‘finger-nail; toe-nail; claw’ (BLR 1558) and *dò-/N-dímì ‘tongue’ (BLR 973), respectively (cf. Bastin et al. 2002). No reconstruction is available for *lí-ntsóò/má-ntsóò* ‘liver’ in BLR3, but this noun is widespread within WCB and commonly belongs to class 11/10 when not reanalysed as part of another class, e.g. 17th c. South Kikongo *lússóco/nssóco* ‘hepar’ (liver) (Van Gheel 1652).

The noun *li-limi* ‘tongue’ is the only 5/6 noun originally belonging to class pairing 11/10 that kept its bare noun stem in the singular without integration of the plural class 10 *N-* prefix. The reinterpretation of the singular nouns in (92) as belonging to class 5 likely facilitated the shift of their plural from class 10 to class 6, as the latter commonly functions as the plural of class 5 in Bantu. Additionally, class 6 appears to be generalizing as a plural class in Bwala for nouns belonging to different singular classes (see Table 4: Bwala noun class pairings).

The merger of PB classes 11 and 5 in favour of the latter also occurred in Teke-Ewo, but the data available do not allow us to tell whether nouns originally belonging to 11/10 split up in the same way as in Bwala. Hyman, Lionnet, and Ngolele (2019) state that nouns that were originally 11/10 belong to 5/9 in Teke-Ewo and provide the examples in (93).¹⁶ They do not mention former 11/10 nouns belonging to 5/6 in present-day Teke-Ewo. However, they do give *lèlèmi/à-lèmi* ‘tongue’ as a 5/6 example. Given that **dími* ‘tongue’ has been reconstructed as an 11/10 noun in PB (Bastin et al. 2002), the presence of *lèlèmi* ‘tongue’ in 5/6 suggests that both pairings 5/9 and 5/6 include former 11/10 nouns in Teke-Ewo, even if *lèlèmi* ‘tongue’ could be a single exception in 5/6.

- (93) Class pair 5/9 in Teke-Ewo (Hyman, Lionnet, and Ngolele 2019, 96)
- | | |
|--|-----------|
| <i>lè-ndèli/n(-)dèli</i> ¹⁷ | ‘beard’ |
| <i>lè-sálá/n(-)tsálá</i> | ‘feather’ |

Whatever the case might be, the merger of PB classes 11 and 5 (11, 5 > 5) is likely a good candidate for subclassification purposes, as it seems to have occurred in the most recent common ancestor of the following languages: Bwala B70z, Teke-Ewo, Duma B51, Nzebi B52, Tsaangi B53, Mpini B601, Mbaama B62, Ngungwel B72a, Kukwa B77a, Tiene B81, and North Boma B82 (Bollaert 2019, 140). Based on the latest and most comprehensive phylogeny of WCB, this most recent common ancestor coincides with the Kasai-Ngounie Extended node within the Kwilu-Ngounie subclade (Pacchiarotti, Chousou-Polydouri, and Bostoen 2019, 186, 190). The noun class data on WCB compiled in Maho (1999, 288–91) seems to confirm our hypothesis.

The second major innovation seen in the Bwala noun class system is the semantically driven split of PB class 9, which formed a pairing with class 10. Animate nouns, as well as several nouns designating natural phenomena, were reassigned to the subclass 1_o in present-day Bwala, see (94). If they have a plural, it is formed in class 2.

- (94) Bwala *9/10 → 1_o/2
- | | |
|-------------------------|--------|
| <i>Ø-mbwà/bá-mbwà</i> | ‘dog’ |
| <i>Ø-mbílì/bá-mbílì</i> | ‘fish’ |
| <i>Ø-ntswû/bá-ntswû</i> | ‘moon’ |
| <i>Ø-mvóù</i> | ‘rain’ |

In addition to the reassigned class 9 nouns, subclass 1_o contains nouns from PB class 1a, such

¹⁶ The Teke-Ewo noun class pairing 5/9 results from the mergers **11>5* and **10>9*. Class 9 does not commonly function as a plural class in Bantu languages, but Hyman, Lionnet, and Ngolele (2019) note that the plural of class 5 nouns have a low tone associative (a.k.a. connective) *yè*. Since only classes 1 and 9 had a low tone pronominal prefix in PB, Hyman, Lionnet, and Ngolele (2019) conclude that the plural of class 5 is formed in class 9, and not in class 10.

¹⁷ Hyman, Lionnet, and Ngolele (2019) use a hyphen in parentheses to indicate that the nasal, which is now part of the noun stem, is the reanalysed PB class 9 **N-*.

as *tàrà* ‘father’ (see (15)), and even one from PB class 3, i.e. *mwélè* ‘river’, which also appears to be an animacy-driven reclassification.¹⁸ Inanimate nouns of the former 9/10 pairing remained in class 9 for their singular, but their plural shifted to class 6, see (95).

- (95) Bwala *9/10 → 9/6
Ø-nzò/má-nzò ‘house’
Ø-ɲkè/má-ɲkè ‘paddle’
Ø-ɲkû/má-ɲkû ‘neck’

The semantically driven split of class 9 also occurred in Teke-Ewo, but in a much more fragmented manner. In Teke-Ewo, the great majority of animate nouns were reassigned to pairing 1/2 — see (94) — as in Bwala. Many inanimate nouns were reassigned to 9/6, also as in Bwala. However, many others were reassigned to 5/6, and some also to 1/8 and 5/9 (as were nouns of other classes); one ended up in 5/2. As in Bwala, if not reduced to zero for specific morphophonological reasons (cf. Kerremans 1980), the historical NP *N- was reanalysed as part of the noun stem in all original 9/10 nouns. All examples in (96)–(101) are taken from Hyman, Lionnet, and Ngolele (2019).

- (96) Teke Ewo *9/10 → 1/2
m(-)bvà/à-mbvà ‘dog’
n(-)gùbú/à-ngùbú ‘hippo’
m(-)púù/à-mpúù ‘rat’
- (97) Teke Ewo *9/10 → 9/6
n(-)dzàlà/à-ndzàlà ‘hunger’
n(-)dzilà/à-ndzilà ‘path’
- (98) Teke Ewo *9/10 → 5/6
lè-ndúú/à-ndúú ‘pepper’
lè-ntúù/à-ntúù ‘chest’
- (99) Teke Ewo *9/10 → 1/8
ò-ngòrí/è-ngòrí ‘liana’
ò-mbónó/è-mbónó ‘leg’
- (100) Teke Ewo *9/10 → 5/9
lè-ndzú/n(-)dzú ‘groundnut’
lè-nkí/n(-)kí ‘neck’

¹⁸ Class 1a also contains the prefixless singular noun *bóò* ‘man’, which is a reflex of **bódó* ‘penis’ (BLR 255), reconstructed within class 9 and attested with that meaning in zones D F G H J L N P S according to Bastin et al. (2002). In Ntandu (H16g, East Kongo, KLC, WCB) its reflex *bolo* (class 5/6) refers to a “non-circumcised organ” (Butaye 1909, 13). In other WCB languages, especially Teke varieties, it underwent the same metonymic semantic shift to ‘man, male’ as in Bwala, e.g. Ngungwel (B72a) *bol* (class 1/2) (Rurangwa 1982, 189), or otherwise ‘husband’, e.g. South Teke (B70y) *bóól* (class 1a/2) (Nsuka Nkutsi 1990, 168).

- (101) Teke Ewo *9/10 → 5/2
lè-nyòní/à-nyòní ‘bird’

The animacy-based reassignment of historical class 9 nouns is the other innovation potentially interesting for subclassification. According to Bollaert (2019, 140), the semantic split of ancient class 9 occurred in all the B50–70 languages she sampled (see list above in this section). This split led to several innovations. Some of the ancient 9/10 nouns were reclassified as 1a/2 (which we call $1_{\emptyset}/2$ in Bwala, see Table 1) nouns on the grounds of animacy. In the B60 and B70 sample languages, this set also contains some nouns designating natural phenomena such as ‘rain’ or ‘star’. In Nzebi B52, Mpini B601, Ngungwel B72a, Kukwa B77a, and Bwala B70z, the remaining 9/10 nouns shifted their plural formation to class 6. The innovation of the 9/6 pairing also took place in Duma B51, Tsaangi B53, and Mbaama B62. However, Tiene B81 and North Boma B82 did not undergo this innovation, but fully retained the 9/10 pairing. In these languages, class 9 only pairs with class 10, and it contains animate as well as inanimate nouns. As pointed out in Bollaert (2019, 143), this finding is potentially not in line with Pacchiarotti, Chousou-Polydouri, and Bostoen’s (2019) lexicon-based phylogenetic classification, which suggests that Bwala split off before any of the other sample languages. The occurrence of the semantic split in Bwala and the B50–70 languages, but not in the B80 languages suggests that Bwala split off *after* the B80 languages did.

5 Conclusions

In this paper we have presented a first analysis of the noun class system of Bwala (B70z), a nearly undocumented and undescribed Bantu language of the Teke group spoken in the Kinshasa province of the DRC.

Our synchronic account of the Bwala noun class system posits seven singular classes (1, 3, 5, 7, 9, 14, 15) and five plural classes (2, 4, 6, 8, 10). Both class 1 and 5 incorporate several subclasses which contain nouns with different noun prefixes triggering the same agreement patterns, either in class 1 or class 5. These singular and plural classes combine into nine distinct noun class pairings, namely. $1_{\text{mu},\emptyset}/2$, $3/4$, $5_{\emptyset,\text{li}}/6$, $5_{\emptyset,\text{li}}/10$, $5_{\text{ku},\text{di}}/4$, $7/8$, $7/6$, $9/6$ and $14/6$. Mono-class nouns occur in classes 3, 5_{\emptyset} , 5_{li} , 6, 8, 14 and 15.

With respect to the noun class system reconstructed for PB, classes 3, 4, 7, 8, 14 and 15 were largely preserved in Bwala. Classes 12 and 13 as well as 16 (locative) disappeared, while locative classes 17 and 18 only left traces outside of the current-day noun class system. Classes 1, 2, 5, 6, 9, 10 and 11 underwent major restructuring with respect to PB, in terms of semantic contents and singular/plural pairings.

First, PB classes 5 and 11 merged due to the reanalysis of nouns originally belonging to class 11 as part of class 5. Some of these reanalysed nouns belong to the Bwala 5/10 pairing, which reflects the original 11/10 pairing to which they all belonged. The plural formation of the remaining nouns shifted to class 6, which entailed a reinterpretation of the erstwhile *N-* prefix of plural class 10 as part of the noun stem.

Second, there was a semantically driven split of PB class 9 which paired with class 10. Animate nouns and several nouns denoting natural phenomena were reassigned to the $1_{\emptyset}/2$ pairing in Bwala. Inanimate nouns remained in class 9, but their plural shifted to class 6. The original *N-* prefix was reinterpreted as part of the noun stem in all nouns originally belonging to the 9/10 pairing.

The comparison with the diachronic changes undergone by the noun class system of Teke-Ewo as analysed by Hyman, Lionnet, and Ngolele (2019) revealed the existence of two morphological innovations which are of potential interest for WCB subclassification: the merger of PB classes 5 and 11 into class 5, and the semantic reassignment of original 9/10 nouns to other noun classes based on animacy. These two innovations did not occur only in these two Teke varieties. As demonstrated in Bollaert (2019), they likely occurred in the most recent common ancestor of the B50–70, B81 and B82 languages.

These shared innovations call for further diachronic research on the evolution of noun class systems in West-Coastal Bantu. An in-depth study of synchronic variation in this domain is likely to provide us with new diagnostic evidence for a better subgrouping and thus a better understanding of the internal classification of this major Bantu branch. This is especially true for the Teke group which, in the lexicon-based phylogeny of Pacchiarotti, Chousou-Polydouri, and Bostoen (2019), is for the most part a paraphyletic grade with the Kasai-Ngounie Extended subclade of West-Coastal Bantu. The detection of distinctive shared innovations in the noun class systems of Teke varieties may help lift the phylogenetic fog left behind by their basic vocabularies. In terms of (basic) lexical variation, most Teke varieties do not let themselves be subdivided in discrete monophyletic subgroups. Rather, they are scattered as paraphyletic grades across the Kwilu-Ngounie branch of WCB. In the latest and most comprehensive phylogenetic classification of WCB, different Teke varieties split off from the tree like the rings of an onion, maximally by clusters of two but mostly one by one, and often with relatively low support values. This lack of phylogenetic resolution among the languages of the Bateke Plateau might be due to intensive and longstanding contact among their speech communities. Moreover, doculects representing different regiolects of presumably one and the same variety do not always cluster together. This might indicate that language labels are based on social rather than linguistic identity.

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Appendix: Bwala – English wordlist

The wordlist below consists of 224 items alphabetically ordered based on the root. The tonal patterns of all nouns are those elicited in isolation. Whenever relevant, we specify the noun class (pairing) for each entry along with its meaning(s). The last column contains protoforms obtained from the Bantu Lexical Reconstructions (BLR) 2/3 (Bastin et al. 2002) database of which we believe the corresponding Bwala synchronic form is a reflex. We indicate the meaning of a protoform only when it diverges from the meaning of its Bwala reflex. A blank in this column means no protoforms could be identified for a given synchronic reflex. We indicate the protoform index (i.e. number) as found in BLR3 for easier identification. If an indexed protoform lacks tone is because none is indicated in BLR3. If there is no BLR index next to a protoform, then the reconstruction is not present in BLR3 but is tentatively proposed based on comparative West-Coastal Bantu data collected during the KongoKing (2012–2016) and BantuFirst (2018–2022) projects.¹⁹ Tentative protoforms lack tone. A question mark means lack of data.

Singular/Plural	NC (pairing)	Meaning	BLR2/3 reconstructed form
<i>má-àná</i>	6	earth, soil	
<i>mú-ánà/ bá-ánà</i>	1/2	child	BLR 3203 *jána
<i>bú-àrà/ má-bú-àrà</i>	14/6	canoe	BLR 3252 *játò ²⁰
<i>í-báà/bí-báà</i>	7/8	bark	*bada ‘bark, skin’
<i>í-báànà/ bí-báànà</i>	7/8	skin	BLR 9285 *banda
<i>lí-báánà</i>	5 _{li}	illumination	
<i>mú-báànà/ mí-báànà</i>	3/4	hill	
<i>í-béì/bí-béì</i>	7/8	thigh, leg	BLR 120 *bèdè
<i>ú-béì</i>	15	to talk	BLR 177 *bíd ‘call, announce, tell’
<i>bì</i>		bad	BLR 5841 *bíi
<i>lí-bíè/ m-bíè</i>	5 _{li} /10	grain	BLR 165 bíad ‘plant, sow’
<i>bíénè</i>		you (pl.)	
<i>mú-bírì/ mí-bírì</i>	3/4	cassava flour cake aka (<i>chi</i>)kwanga	
<i>ú-bírì</i>	15	to steal, to transport	BLR 220 *bít ‘to carry’
<i>Ø-bíyè/ má-bíyè</i>	5 _Ø /6	breast	BLR 125 *béèdè

¹⁹ The KongoKing project (<http://kongoking.net/>) was led by the last author and funded by the ERC Starting Grant n° 284126.

²⁰ An anonymous reviewer observes that according to Bulkens (2009) *játò ‘canoe’ should be reconstructed without an initial consonant.

The Noun Class System of Bwala, an Undocumented Teke Language from the DRC (Bantu, B70z)

Flore Bollaert, Sara Pacchiarotti & Koen Bostoen

<i>Ø-bòò/ bá-bòò</i>	1 _Ø /2	man	BLR 255 *bódó ‘penis’
<i>bò</i>		they (pl.)	
<i>Ø-búò/má-búò</i>	5 _Ø /6	knee	BLR 275 *bóngó
<i>í-búò/ bí-búò</i>	7/8	horn	BLR 6767 *bongo
<i>lí-búrù/ m-búrù</i>	5 _{lí} /10	seed	BLR 351 *bótò
<i>ú-búù</i>	15	to break	BLR 372 *búg
<i>bwè</i>		good, beautiful	BLR 7060 *boi ‘good’
<i>Ø-bwì/má-bwì</i>	5 _Ø /6	herd, group	
<i>ú-bwìlù</i>	15	to break	BLR 297 *bód ‘break, smash, kill’
<i>byú</i>		we	
<i>mù-dìlì</i>	3	cold	BLR 1032 *dìdì
<i>ú-dòù</i>	15	to kill	*du
<i>Ø-dúmù/ má-dúmù</i>	5 _Ø /6	belly	*dumσ ‘belly, stomach, pregnancy’
<i>bí-dyà</i>	8	food	BLR 944 *dí
<i>í-dyà/ bí-dyà</i>	7/8	puddle, pond	BLR 1006 *díá
<i>má-dyà</i>	6	water	BLR 1006 *díá
<i>ú-dyà</i>	15	to eat	BLR 944 *dí
<i>ú-dyéle</i>	15	to turn	BLR 6429 *díeng
<i>ú-dyû</i>	15	to burn	BLR 1039 *díg
<i>Ø-dwiri/ ?</i>	5 _Ø /?	leaf (for wrap- ping)	BLR 1638 *júídí ‘hair (on head)’
<i>bù-è</i>	14	clay soil	
<i>í-fiyù/ bí-fiyù</i>	7/8	door	
<i>ú-fiyù</i>	15	to cover	BLR 5467 *kúk
<i>lí-fòù/ m-fòù</i>	5 _{lí} /10	hair	BLR 5387 *pùpu ‘body hair’
<i>í-fòù</i>	7	wind	BLR 2478 *pépò
<i>?/ mà-fùbù</i>	?/6	lungs	BLR 4823 *pσσpσ
<i>í-fyù/ bí-fyù</i>	7/8	cloud	BLR 2558 *piò
<i>í-lwì/ ?</i>	7/?	week	

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<i>kí-íbì/ bí-íbì</i>	7/8	evil spirit, theft	BLR 3396 *jìbì ‘thief’
<i>dí-ínì/ mí-ínì</i>	5 _{di} /4	tooth	BLR 3472 *jínò
<i>bù-kà/ mà-ɲkà</i>	14/6	<i>fufu</i>	
<i>mú-káàr/ bá-káàr</i>	1/2	woman	BLR 9300 *káintò
<i>káli</i>		left	BLR 1674 *kádí ‘woman, wife’
<i>Ø-kè/ má-kè</i>	5 _ø /6	egg	BLR 1339 *gé
<i>má-kéi</i>	6	blood	BLR 1398 *gídá
<i>mú-kèi/ mí-kèi</i>	3/4	tail	BLR 1793 *kídà
<i>mú-kìò</i>	1	junior, the one who is younger	
<i>ì-kò/ bì-kò</i>	7/8	garment	
<i>ì-kòò/ bí-kòò</i>	7/8	fence	BLR 7153 *gò ‘fence, enclosure’
<i>lí-kòò/ ɲ-kòò</i>	5 _{li} /10	bean	BLR 2048 *kòndè
<i>mú-kòù/ mí-kòù</i>	3/4	heart	BLR 1889 *kòdò ‘heart, breast(bone)’
<i>Ø-kùpè/ mà-kùpè</i>	5 _ø /6	trousers (culotte)	BLR 5178 *kòp ‘cover up sp.’ ~ BLR 5186 *kòpò ‘hide (sp.)’
<i>ì-kúrákù/ bí-kúrákù</i>	7/8	stool	
<i>mú-kúrù/ bá-kúrù</i>	1/2	elder	BLR 2003 *kòdó
<i>mú-kùrù/ ?</i>	3/?	spine	
<i>kwímì</i>		ten	BLR 2027 *kómì
<i>bù-là/ má-là</i>	14/6	village	BLR 781 *dá
<i>mú-là/ mí-là</i>	3/4	intestine	BLR 773 *dà ‘abdomen, intestines, inside, pregnancy’
<i>ú-láà</i>	15	to sleep, to lie (down)	BLR 795 *dáad ‘lie down, sleep, spend the night’
<i>Ø-lám/ má-lám</i>	5 _ø /6	mountain	*dama
<i>ì-lèlè/ bì-lèlè</i>	7/8	beard hair	BLR 897 *dèdù
<i>lè</i>		long	BLR 3705 *dài ‘long’
<i>bù-lè</i>	14	size (when huge), length	BLR 3705 *dài ‘long’

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<i>kí-li/ bí-li</i>	7/8	mortar	BLR 3042 *tódí (where tó- could be CL13?)
<i>lílímù</i>		day after tomorrow	
<i>lí-límì/ má-ndímì</i>	5 _{ii} /6	tongue	BLR 973 *dími ‘language, tongue, flame’
<i>ú-líyè</i>	15	to say	
<i>lóbò</i>		today	
<i>í-lòò/ bí-lòò</i>	7/8	thing	BLR 1107 *dógò
<i>lúm</i>		right	BLR 1182 *dómè ‘male’
<i>ú-lúrù</i>	15	to walk, to pass	BLR 1227 *dòt ‘pass, surpass’
<i>ú-lúù</i>	15	to fall, to fill	BLR 5313 *dòkɔt ‘fall’
<i>bú-lúùmù</i>	14	major river	
<i>Ø-lúúrù/ má-lúúrù</i>	5 _ø /6	tire	
<i>mú-lyém/ mí-lyém</i>	3/4	finger	BLR 923 *démbó
<i>Ø-mbáà/ ?</i>	9/?	fire	*bagu
<i>Ø-mbéì/ má-mbéì</i>	9/6	town	
<i>Ø-mbíli/ bá-mbíli</i>	1 _ø /2	fish	BLR 6135 *bídi
<i>Ø-mbwómò/ má-mbwómò</i>	9/6	nose	BLR 265 *bòmbó
<i>Ø-mbwà/ bá-mbwà</i>	1 _ø /2	dog	BLR 282 *bóà
<i>méèli</i>	6	fat, oil	BLR 3160 *jàdí
<i>míér/ miér</i>	3/4	trap	
<i>mìù/ mì</i>	3/4	pestle	*du
<i>mò</i>		one	BLR 7042 *mòì
<i>ú-mónò</i>	15	to see	BLR 2206 *món
<i>Ø-mpará múìli/ bá-mpará múìli</i>	1 _ø /2	star	
<i>Ø-mpíbi</i>	9	night	BLR 2585 *piipí ‘darkness, blackness’
<i>mpwómò</i>		eight	
<i>lí-mpyòò/ má-mpyòò</i>	5 _{ii} /6	branch	

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<i>múìlì</i>	3 or 1 _∅	day, light	
<i>mú-ηgwà</i>	3/?	salt	BLR 1521 *gúá
<i>mú-súù</i>	3/?	tomorrow	BLR 761 *cúgù ‘day of 24 hours’
<i>i-múù/ bí-múù</i>	7/8	chat	
<i>∅-mvòù</i>	1 _∅	rain, year	BLR 368 *búdà
<i>∅-mwélè/ bá-mwélè</i>	1 _∅ /2	river	BLR 1560 *jádé
<i>∅-námà/ bá-námà</i>	1 _∅ /2	animal	BLR 3180 *nyàmà
<i>ndè</i>		s(he)	BLR 942 *ndí ‘other’
<i>∅-ndóò/ má-ndóò</i>	9/6	problem, speech, word, voice	BLR 823 *dáká ‘affair, word’ BLR 822 *dáká ‘voice’
<i>∅-ndóù/ ?</i>	9/?	pancreas	
<i>nénè</i>		big	BLR 2255 *néné
<i>∅-ηgù/ ?</i>	1 _∅ /?	mother	*gʊgʊ
<i>∅-níjù/ bá-níjù</i>	1 _∅ /2	bee	
<i>∅-ηkàrà</i>	9	inside	BLR 1732 *kàtí
<i>∅-ηkè/ má-ηkè</i>	9/6	paddle	BLR 1725 *kápí
<i>ηkì</i>		what, which (thing)	*kie
<i>∅-ηkù/ má-ηkù</i>	9/6	neck	BLR 1845 *kíngó
<i>∅-ηkír/ bá-ηkír</i>	1 _∅ /2	fetish	BLR 1819 *kítì
<i>lì-ηkò/ má-ηkò</i>	5 _{ii} /6	banana	BLR 1855 *kò
<i>∅-ηkóò/ ?</i>	1 _∅ /?	grandparent	BLR 1685 *kààká
<i>lì-ηkyù/ má-ηkyù</i>	5 _{ii} /6	eyelash	BLR 1828 *kígè (often kígù in WCB)
<i>∅-ηkúù/ má-ηkúù</i>	9/6	path	BLR 4667 *kòdá
<i>∅-ηkúúmù/ má-ηkúúmù</i>	9/6	name	BLR 2036 *kómbó
<i>∅-ηkwánù/ má-ηkwánù</i>	9/6	stone	*kʊʊʊ
<i>mú-ηkwénè/ mí-ηkwénè</i>	3/4	fist	BLR 6576 *konɪ ‘punch, blow with fist’

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<i>nnà</i>		four	BLR 3683 *nài
<i>nnà</i>		who, which (person)	BLR 3682 *nai
<i>Ø-nìni/bà-nìni</i>	1 _Ø /2	bird	BLR 1627 *jòni
<i>Ø-ntàlà/ má-ntàlà</i>	9/6	bed	BLR 2720 táda ‘platform, rack, granary’
<i>mù-ntándòbù/ bá-ntándòbù</i>	1/2	fisherman	BLR 6875 *dòbì
<i>Ø-ntéili/ bá-ntéili</i>	1 _Ø /2	snake	BLR 2733 *tàadí
<i>mù-ntò/mì-ntò</i>	3/4	basket	
<i>ntsìàmà</i>		seven	BLR 438 *càmbò
<i>Ø-ntsìni/bà-ntsìni</i>	1 _Ø /2	louse	*kma ~ BLR 6164 *cidi
<i>lí-ntsóò/ má-ntsóò</i>	5 _{li} /6	liver	*coko
<i>Ø-ntswii/ bá-ntswii</i>	1 _Ø /2	moon	BLR 739 *cóngé
<i>Ø-ntfò</i>	9	bush	BLR 476 *càngà
<i>ì-ntù/bì-ntù</i>	7/8	banana	
<i>ì-ntyàà/ bí-ntyàà</i>	7/8	mirror	BLR 2718 *tád ‘look (at)’
<i>mù-nywà/ mì-nywà</i>	3/4	mouth, spoken language	BLR 4711 *nyòà ‘mouth, lip, beak’
<i>ú-nywà</i>	15	to drink	BLR 2342 *nó
<i>má-nwánà</i>	6	fight	BLR 1151 *dòan
<i>ú-nwánà</i>	15	to fight	BLR 1151 *dòan
<i>lí-nzáà/ má-nzáà</i>	5 _{li} /6	finger nail	BLR 1558 *jádà
<i>nzè</i>		you (sg.)	
<i>Ø-nzèi/ mà-nzèi</i>	9/6	path, road	BLR 1593 *jidà
<i>Ø-nzò/ má-nzò</i>	9/6	house	BLR 1600 *jó
<i>Ø-nzòò/ bà-nzòò</i>	1 _Ø /2	elephant	BLR 1607 *jògù
<i>Ø-nzá múngwà</i>	9	ocean	
<i>Ø-nzáà/ má-nzáà</i>	9/6	big river	
<i>kú-óò/ mí-óò</i>	5 _{ku} /4	arm, hand	BLR 260 *bókò
<i>bú-ómò</i>	14	fear	BLR 3543 *jómà

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<i>bù-ò</i>	14	mushroom	BLR 3527 *jògà
<i>Ø-pfá/ má-pfā</i>	5 _∅ /6	bone	BLR 2132 *kúpà
<i>ú-pfā</i>	15	to die	BLR 2089 *kú
<i>pfī</i>		short	BLR 2073 *kópí
<i>lí-pfū</i>	5 _{li}	death	BLR 2096 *kúà
<i>ú-pfúù</i>	15	to fall	
<i>píinì</i>		black	BLR 2577 *pínd
<i>m(ú)-píyé</i>	3	blowing wind, breath	BLR 2463 *pép
<i>ù-pùmù</i>	15	to fly	BLR 3819 *pùmɔ̀k
<i>í-píù/ bí-píù</i>	7/8	bark	BLR 5264 *pòcú
<i>kí-r/ bí-rì</i>	7/8	chair	
<i>múú-r/ báá-r</i>	1/2	person	BLR 3005 *ntò
<i>lí-sáà/ ñ-tsáà</i>	5 _{li} /10	feather	BLR 406 *cádá
<i>lí-sáà lé dīù/ n-tsáà é mīù</i>	5 _{li} /10	eyebrow	BLR 406 *cádá ‘feather’ + BLR 3405 *jícò
<i>í-sáà/ bí-sáà</i>	7/8	fish tail	
<i>í-sáli/ bí-sáli</i>	7/8	work	BLR 412 *cádí
<i>sàmù</i>		six	BLR 433 *cààmànò
<i>mù-siì/ mì-siì</i>	3/4	rope	BLR 622 *cìngà ‘string, hair (on body)’
<i>Ø-siè</i>	5 _∅	sand	BLR 7719 *cèngè
<i>mú-símù/ mí-símù</i>	3/4	root	*tímbɔ̀do
<i>í-sòò/ bí-sòò</i>	7/8	basket	
<i>Ø-sòò/ ñ-tsòò</i>	5 _∅ /10	leaf	
<i>lí-sòò/ ñ-tsòò</i>	5 _{li} /10	cassava tuber	*coko ‘cassava’
<i>má-sòò</i>	6	food	
<i>mù-sùnù/ mì-sùnù</i>	3/4	meat, flesh	BLR 3778 *cùnì
<i>ù-sùò</i>	15	to wash (some- thing)	BLR 711 *còk
<i>mú-súrù/ mí-súrù</i>	3/4	forest	BLR 2948 *tító ‘forest, thicket’

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<i>ú-fúù</i>	15	to sit	*cɔŋgam
<i>bú-tà/ má-tà</i>	14/6	rifle	BLR 9207 *táá
<i>ú-táà</i>	15	to watch	BLR 2718 *tád ‘look (at)’
<i>táànà</i>		five	BLR 2768 *táànò
<i>Ø-táàrà/ bá-táàrà</i>	1 _∅ /2	father	BLR 2806 tàátá
<i>í-tábà/ bí-tábà</i>	7/8	puddle	
<i>mú-tèì/ mí-tèì</i>	3/4	height	BLR 2731 *tádí ‘long’
<i>í-tèìmì/ bí-tèìmì</i>	7/8	sole of the foot	BLR 2761 *támbí
<i>Ø-télé</i>	5 _∅	sun	BLR 9005 *tadi
<i>mú-tì/ mí-tì</i>	3/4	tree	BLR 2881 *tí
<i>mú-tò</i>	3	ash, dust	BLR 2954 *tó
<i>í-tòò/ má-tòò</i>	7/6	buttock, pelvic bone	BLR 2741 *tákò
<i>í-tò/ bí-tò</i>	7/8	body part	
<i>í-tòù/ bí-tòù</i>	7/8	chest, torso	BLR 3044 *tòdò
<i>tséè</i>		many	
<i>ú-tsíà</i>	15	to swim	*trab
<i>Ø-tsòù/ má-tsòù</i>	5 _∅ /6	day (24h)	BLR 761 *cúgù ‘day of 24 hours’
<i>ú-tsúnù</i>	15	to burn, to squabble	
<i>Ø-tsùrù</i>	5 _∅	heat	
<i>í-tsúù/ ?</i>	7/?	bird’s tail	BLR 5352 *cókà
<i>ú-tsúùrù</i>	15	to rise, to stand up	
<i>ú-tswà</i>	15	to bite	BLR 7174 *tó
<i>mú-tswì/ mí-tswì</i>	3/4	head	BLR 3023 *tòè
<i>Ø-tfì/ má-tfì</i>	5 _∅ /6	ear	BLR 3030 *tói
<i>ú-tfúù</i>	15	to flow	
<i>ú-tù</i>	15	build	BLR 3081 *tóng
<i>ú-túù</i>	15	to leave, to go out	

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<i>túrù</i>		three	BLR 2811 *tátò
<i>ú-túrù</i>	15	to wash (clothes)	
<i>ùè</i>		two	BLR 3523 *jòdè
<i>dí-ù/mí-ù</i>	5 _{dí} /4	eye	BLR 3405 *jícò
<i>kù-ù/ mì-ì</i>	5 _{ku} /4	foot	BLR 1490 *gòdò
<i>Ø-vùlù/ má-vùlù</i>	5 _Ø /6	city	
<i>wá</i>		nine	BLR 360 *bùá
<i>ú-wà</i>	15	to give	BLR 2344 *pá
<i>ú-wè</i>	15	to walk, to leave, to go	
<i>mù-wìlì/ mì-wìlì</i>	3/4	throat	
<i>ù-wòbò</i>	15	to wash (oneself)	BLR 6881 *jòb ‘paddle’
<i>mú-wúmù/ mí-wúmù</i>	3/4	breathing	BLR 2647 *pósm
<i>ú-wúmù</i>	15	to breathe	BLR 2647 *pósm
<i>ú-wúmù</i>	15	to dry	BLR 3616 *jóm
<i>ú-yà</i>	15	to come	BLR 3425 *jij ‘come’
<i>ú-yábà</i>	15	to know	BLR 6207 *jijab
<i>í-yì/ má-yì</i>	5 _i /6	stomach (of a person or animal)	
<i>í-yì/ bí-yì</i>	7/8	stomach (of a bird or insect)	
<i>mú-yínì/ mí-yínì</i>	3/4	lower leg	BLR 2527 *píndí ‘shin, leg, calf, bone’
<i>í-yúù</i>	5 _i	smoke	BLR 3540 *jókì
<i>ì-yúù</i>	5 _Ø	sky	BLR 1486 *gòdò
<i>lí-yúù/ ñ-zúù</i>	5 _{li} /10	groundnut	BLR 1621 *yògó
<i>?/ má-yú ñbwómó</i>	?/ 6	nostrils	
<i>ú-yúù</i>	15	to hear, to listen	BLR 3604 jóg